

UNCLASSIFIED

AD 89057

Armed Services Technical Information Agency

Reproduced by

DOCUMENT SERVICE CENTER

KNOTT BUILDING, DAYTON, 2, OHIO

This document is the property of the United States Government. It is furnished for the duration of the contract and shall be returned when no longer required, or upon recall by ASTIA to the following address: Armed Services Technical Information Agency, Document Service Center, Knott Building, Dayton 2, Ohio.

NOTICE: WHEN GOVERNMENT OR OTHER DRAWINGS, SPECIFICATIONS OR OTHER DATA ARE USED FOR ANY PURPOSE OTHER THAN IN CONNECTION WITH A DEFINITELY RELATED GOVERNMENT PROCUREMENT OPERATION, THE U. S. GOVERNMENT THEREBY INCURS NO RESPONSIBILITY, NOR ANY OBLIGATION WHATSOEVER; AND THE FACT THAT THE GOVERNMENT MAY HAVE FORMULATED, FURNISHED, OR IN ANY WAY SUPPLIED THE SAID DRAWINGS, SPECIFICATIONS, OR OTHER DATA IS NOT TO BE REGARDED BY IMPLICATION OR OTHERWISE AS IN ANY MANNER LICENSING THE HOLDER OR ANY OTHER PERSON OR CORPORATION, OR CONVEYING ANY RIGHTS OR PERMISSION TO MANUFACTURE, USE OR SELL ANY PATENTED INVENTION THAT MAY IN ANY WAY BE RELATED THERETO.

UNCLASSIFIED

**CARNEGIE INSTITUTE OF TECHNOLOGY
PSYCHOLOGICAL LABORATORIES
PITTSBURGH 13, PENNSYLVANIA**

FC

**CONDITIONS AFFECTING
THE MILITARY UTILIZATION OF PEER RATINGS:**

THE NEWPORT STUDY



**FINAL REPORT
ONR CONTRACT Nonr 760(06)
MAY, 1956**

**E. P. Hollander
Principal Investigator**

**AD No 89-2057
ASTIA FILE COPY**

Carnegie Institute of Technology
Psychological Laboratories
Pittsburgh 13, Pennsylvania

CONDITIONS AFFECTING THE MILITARY UTILIZATION OF PEER RATINGS:

THE NEWPORT STUDY

Final Report
ONR Contract Nonr 760(06)
May, 1956

E. P. Hollander
Principal Investigator

Reproduction in whole or in part is permitted for
any use of The United States Government

I. Background

This is the final summary report of a large-scale study of peer ratings completed in 1955 at the U. S. Naval School, Officer Candidate (OCS) in Newport, Rhode Island, with the 23 sections comprising OCS class 23.¹ The study's objective was to yield supportive data on the use of peer ratings -- specifically, "peer nominations" -- for supplemental screening in the OCS.

The effects on the reliability and validity of ratings were studied for four core factors: the length of time the group had been together; the use of a "research" set vs. a "real" set on the peer rating forms; the nature of the quality to be rated; and, friendship choice.

Four forms, each requiring five "high" and five "low" peer nominations, were utilized: a primary form, for all sections, based on "success as a future Naval Officer" (FO); and, by section, one of three secondary forms, i.e., "leadership qualities" (LQ), "interest in and enthusiasm for the Naval Service" (IE), and "probability of success in OCS" (OC). This design was used at the orientation, third, and sixth weeks of training; at the thirteenth week, only the FO form was administered.

Approximately half the sections received a "research" set with assurance that the ratings would be used for research purposes only and would not affect their Navy career. The other sections were given an "administrative" set with instructions indicating that the ratings might be used administratively. At the close of every administration, each subject was asked to list five people in his section whom he regarded as friends; a "research" set was always used for this form.

¹It is a sincere pleasure to acknowledge the splendid cooperation of the staff and student personnel of the Naval OCS in the pursuit of this study.

II. Major Findings

Three technical reports have been produced under this contract (1, 2, 3). They have dealt, in order, with reliability, validity against in-training criteria, and the effects of friendship choice. Their major findings are summarized, by topic, below:

A. Reliability

1. The reliability of forms administered very early in training--after the groups had been together for four to five days--was a reasonable approximation of the reliability obtained with the same forms and the same groups at later points in training.
2. The peer nomination scores secured at the end of the third week of training correlated at a high level with those scores secured from the same groups at a later level, i.e., sixth week.
3. There was no significant difference in the single-stage reliability or longitudinal reliability of comparable forms administered under the "research" as against the "administrative" set.
4. All forms--irrespective of the four different rated qualities involved--showed a tendency to begin with substantial reliability and rise in subsequent administrations to only a slightly higher plateau.

B. In-Training Validity

1. Depending upon the criterion utilized, different forms yielded differential validity in prediction.
2. All forms showed a tendency to increase in their correlation with academic performance from stage to stage.
3. Irrespective of the stage at which administered, all forms showed a generalized significance in the prediction of the military aptitude grade assigned by superiors.
4. The form which best predicted the pass-fail and academic criteria was the one requiring nominations on "probability of success in OCS"; the significance of this prediction was found at every stage of administration and for both sets.
5. While different forms manifested significant differences in validity against various criteria, there was no general disparity between the validity of forms administered under the "research" as against the "administrative" set, although certain interactions were found.

C. Friendship Choice

1. An average of about two out of five acknowledged friends were nominated "high" on peer ratings; significantly fewer friends were nominated "high" at later stages of training than were nominated "high" at the outset of training.

2. In general, significantly fewer friends were nominated "high" on the forms having to do with "interest in and enthusiasm for the Naval Service" (IE) and "probability of success in OCS" (OC) than on the forms dealing with "success as a future officer" (FO) or "leadership qualities" (LQ).

3. A "friendship score" based upon the number of friendship choices received by a subject was found to be significantly correlated with peer nomination scores, but not systematically related to the academic performance criterion. Different forms yielded different relationships with friendship--once again IE and OC were significantly lower than FO and LQ.

4. These relationships were not significantly different for the "research" set as against the "administrative" set.

5. When validity coefficients for peer nomination scores were corrected by partialing friendship, it was found that they regularly retained their level of magnitude, thus demonstrating that the validity of peer ratings--at least for this criterion--was not unduly altered by a "popularity" factor.

III. Conclusions and Recommendations

In general terms, these findings support the administrative use of peer ratings by adding further evidence of their reliability and validity. Specifically, the data indicate that a peer nomination administered as early as the third week of training yields substantially the same information as that obtained at the sixth week, or even later. Considering the progressive academic contamination of ratings, over time, this has particular implications for good prediction.

In contrast to the view that peer ratings constitute a "popularity contest," the data indicate that they yield prediction of a performance criterion without adverse effects from friendship ties. It may be suggested, too, that this relationship operates so as to favor as friends those of

high status on certain other continua--i.e., "success as a future officer"--rather than to simply create high status for friends.

As a practical matter, there is now a reasonable basis for the application of early peer ratings to yield supplemental data for screening. The particular merit of the various forms has been considered in detail in the technical reports (1, 2, 3); in brief terms, however, it may be recommended that a precise form like OC, plus a broader form like FO or LQ, be utilized administratively during the first quarter of the OCS training cycle. Added to this is the fact that the "administrative" set leads to neither more nor less reliable or valid scores than those secured through the presumably less threatening, or more lightly-taken, "research" set.

Although these findings do illuminate paths of application it is essential that additional data be obtained for the construction of a post-training criterion against which forms may be further validated.

Reports

1. Hollander, E. P. Conditions Affecting the Military Utilization of Peer Ratings: The Newport Study. I. Reliability. Navy Technical Report 1-56. Pittsburgh: Psychological Laboratories, Carnegie Institute of Technology, January, 1956.
2. Hollander, E. P. Conditions Affecting the Military Utilization of Peer Ratings: The Newport Study. II. Validity Against In-Training Criteria. Navy Technical Report 2-56. Pittsburgh: Psychological Laboratories, Carnegie Institute of Technology, February, 1956.
3. Hollander, E. P. Conditions Affecting the Military Utilization of Peer Ratings: The Newport Study. III. Friendship Choice. Navy Technical Report 3-56. Pittsburgh: Psychological Laboratories, Carnegie Institute of Technology, April, 1956.

Participating Project Personnel--Carnegie Institute of Technology:

E. P. Hollander, Principal Investigator; William H. Meanor and Brian J. O'Brien, Graduate Assistants; Marilyn E. Adler and Joyce Gunia, Research Assistants.